

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-11 are pending in the present application. Claims 1, 3, and 9 are amended by the present amendment.

Claim amendments find support in the specification, at least, on page 20, line 16 to page 22, line 15, thus, no new matter is added.

In the outstanding Office Action, Claims 1-11 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement; Claims 1-11 were rejected under 35 U.S.C. § 112, first paragraph, as failing to fulfill the enabling requirement; Claims 1-11 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite; and Claims 1-6, 9 and 10 were rejected under 35 U.S.C. § 102(b) as anticipated by Cox et al. (E.P.O. Pat. No. EP 840 513 A2, herein “513”).

In response to the rejection under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, Applicant respectfully traverses this rejection. M.P.E.P. 2163(I)(A) states that “There is a strong presumption that an adequate written description of the claimed invention is present when the application is filed...the PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims.” Therefore Applicant respectfully submits that the outstanding Office Action has not described why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims.

Nevertheless, Applicant has amended Claim 1 to more clearly recite the subject matter described in the specification. Specifically, Claim 1 now recites “performing a co-watermarking by periodically embedding a binary matrix P into the initial image so as to

determine, on reception, co-ordinates of an origin of the initial image allowing the images received to be correlated to the origin of the initial image.” Therefore, the claims now match the specification as it is described beginning on page 20, line 16, which states, the co-watermarking process enables the origin of the initial image to be retrieved, allowing the origin co-ordinates of an image processed by JPEG, MPEG, or recording hardware to be correlated to the origin co-ordinates of the initial image. Thus, Applicant believes that Claims 1-11 now comply with the 35 U.S.C. § 112, first paragraph requirement of compliance with the written description.

In response to the rejection under 35 U.S.C. § 112, first paragraph, as failing to comply with the enabling requirement, Applicant has amended Claim 1 to more clearly recite the subject matter described in an enabling fashion in the specification. Specifically, Claim 1 has been amended to recite, “allowing the images received to be correlated to the origin of the initial image.” Thus, Claim 1 now describes allowing images to be correlated to the origin of the initial image. The process whereby this is accomplished is described in the specification on pages 21-22 and in dependent Claim 4, which recites, in part, “to determine at reception the co-ordinates of the origin of the initial image...[chop] the image received into blocks, [sum] the blocks to form a matrix M of size $m \times m$, [cross-correlate] the matrix M with the co-watermarking binary matrix P by successive shifts of the matrix M relative to the matrix P, and [take] as co-ordinates of the origin the co-ordinates for which the cross-correlation product is a maximum.” Therefore, it can be clearly seen that the claims as well as the specification are now written as to enable any person skilled in the art to make and use the present invention. Thus, Applicant believes that Claims 1-11 now comply with the 35 U.S.C. § 112, first paragraph requirement of enablement.

In response to the rejection under 35 U.S.C. § 112, second paragraph, Applicant has amended the claims to remove the ambiguous term “registration” replacing it with a more

descriptive term –correlate–, thus more particularly pointing out and distinctly claiming the subject matter of the current invention. Further, Claim 3 and Claim 9 have been amended to more clearly recite the claimed features and Claim 1 has been amended to clarify the co-watermarking process as noted above. More specifically, Claim 9 has been amended to recite “performing a watermarking on all pixels in the image,” thus limiting the watermarking to a definite number of points. Further, Claim 3 has been amended to clearly describe the features described in the specification beginning on page 21, line 6. Thus, Applicant believes that Claims 3, 9 and 1 and claims depending therefrom, now comply with 35 U.S.C. § 112, second paragraph.

Before turning to the outstanding prior art rejections, it is believed that a brief review of the present invention would be helpful.

In this regard, the present invention describes a process for watermarking stationary or video images. In a non-limiting example, shown in Figure 8 the process includes performing a co-watermarking by creating a basic matrix (P) which by periodic repetition is enlarged to the size of the original image (I). The enlarged matrix image (Ip) is embedded into the original image (I) by changing the luminance values of the original image's pixels based on the marking amplitude of the enlarged matrix image (Ip). Further, as shown in Figure 9, the origin co-ordinates can be rediscovered after the co-watermarking by creating an image matrix (M) from the watermarked image¹ and cross-correlating the image matrix (M) with the basic matrix (P) noted above and performing a calculation² on the resulting cross-correlation matrix.

Turning now to the 102 rejection in the outstanding Office Action, Applicants respectfully traverse the 102(b) rejection based ‘513 for at least the following reasons.

¹ The formula for calculating the image matrix (M) can be found on page 22, line 1.

² The formula for finding the origin co-ordinates from the cross-correlation matrix can be found on page 22, line 10.

Claim 1 recites, in part,

performing a co-watermarking by periodically embedding a binary matrix P into the initial image so as to determine, on reception, co-ordinates of an origin of the initial image allowing the images received to be correlated to the origin of the initial image.

'513 describes a method for insertion and extraction of a watermark into an image using a pseudo-random noise sequence. However, '513 does not describe or suggest performing a co-watermarking process. Further, '513 does not describe periodically embedding a binary matrix into an initial image, nor does '513 describe allowing the images received to be correlated to the origin of the initial image.

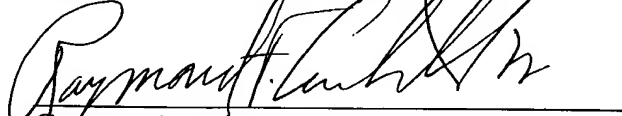
Thus, '513 does not describe or suggest "performing a co-watermarking by periodically embedding a binary matrix P into the initial image so as to determine, on reception, co-ordinates of an origin of the initial image allowing the images received to be correlated to the origin of the initial image," as is recited in Claim 1.

Accordingly, Applicant respectfully submits that independent Claim 1 and claims depending therefrom patentably distinguish over '513.

Consequently, in light of the above discussion and in view of the present amendment, the application is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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